

REMARKS

Claim Amendments

Claims 1 and 18 are amended to better define the meaning of the “complemented characteristically” aspects of the emission spectra of the first and second luminescent substances that have been defined previously in the claim as “overlapping in at least a subrange of said joint emission range such that the emission spectrum of the first luminescent substance is complemented characteristically by the emission spectrum of the second luminescent substance, to define an envelope of luminescent emissions usable as a security coding”.

Upon further review, in particular in view of the examiner's interpretation of the primary reference Gonzalez U.S. 6,380,547, claims 1 and 18 have been amended to recite that the first and second luminescent substances emit in the subrange with respective emission spectra peaks so close as to practically prevent individual recognition of the first and second luminescent substances from an envelope of luminescent emissions defined by the joint emission range without further information, such that the composition is usable as a security coding.

This language has been taken from paragraph [0031] of the specification which states, after describing the two luminescent spectra 22, 23 as overlapping each other such that the emission spectrum of the first luminescent substance is complemented by the emission spectrum of the second luminescent substance: “Due to the small distance between the two lines (meaning the peak lines, of course), the presence of the two luminescent substances 12 and 13 is practically unrecognizable from the envelope emission curve without previous knowledge of the substance used, so that the coating has high falsification security. Since the spectrum is produced by difference matrices in which the luminescence ions are located in different crystal fields, there are no matrices that, taken alone, produce the same emission spectrum.”

The proposed amendments to claims 1 and 18 further are supported by the language in paragraph [0032] stating that: “As with the first pair of luminescent substances, it is practically impossible to derive the type of luminescent substances used from the envelope of the luminescence emissions of the two luminescent substances 14, 15 without further information.”

Thus, the underlying basis for the invention is that the peaks of the first and second luminescent substances are so close as to be virtually indistinguishable, thereby rendering it virtually impossible to identify the individual luminescent substances without additional information.

A careful reading of the specification with reference to the drawings will reveal that the amendment language in claims 1 and 18 fully define the meaning of "complemented characteristically" in terms that fully distinguish the present invention over that of Gonzalez.

#### The Rejections under 35 U.S.C. §102 and §103

The examiner has rejected all of the claims under 35 U.S.C. §102 or 103 on grounds that the luminophores emit in overlapping ranges. What the examiner overlooks is that in all cases the Gonzalez invention requires identification of each peak of each luminophore in order to carry out the invention described in the patent. That is, if the peaks of the luminophores cannot be distinguished from each other, the Gonzalez invention fails.

The examiner's attention is drawn to the fact that Gonzalez discloses a coding by means of luminescent substances comprising a plurality of laser luminophores selected so that they fluoresce at different wavelengths in a predetermined region of the spectrum (column 1, lines 56-65). By combining the different laser luminophores, a unique spectral signature may be obtained. The unique signature may be obtained in that the used substances have fluorescent peaks for certain wavelengths (column 1, line 66 – column 2, line 1). The coding is obtained by subdividing a certain region of the electromagnetic spectrum into a plurality of subregions (column 2, lines 27-29). Within the subregions, a sufficient number of laser luminophores is established which luminesce within the subregions in order to achieve codings (column 2, lines 31-35). In a region of 300 to 1000 nm (column 2, line 50) 10 laser luminophores are selected to have distinctly discriminable luminescent maxima (i.e., peaks) in the region of 300 to 450 nm (column 2, lines 52-54) in order to code, for example, different year.

Twelve laser luminophores having differentiable luminescent maxima are selected in the region of 800 to 1000 nm (column 2, lines 55 to 57) in order to code different months. Thirty laser luminophores are selected in the region of 450 to 550 nm (column 2, lines 57-59) in order to code different companies. Thirty-one laser luminophores are selected in the region of 650 to 800 nm (column 2, lines 63-65) in order to code different days. All selected luminescent maxima or peaks must be discriminable (detectable) in that they have a

maximum at a certain wavelength or in that the maximum has a certain intensity, shape and/or fading characteristic after fluorescence. Column 10, lines 30-33 and 54-60 as well as column 4, lines 39-55 describe subdividing a certain region of the spectrum whereas within the regions laser luminophores are used that have unique differentiable luminescent maxima at certain wavelengths.

Gonzalez, accordingly, obtains a coding because laser luminophores are used that have maximum peaks at certain wavelengths. This enables detection of the maxima to establish codings based on the detected maxima or peaks.

Gonzalez, however, does not at all suggest that the used luminescent substances may form a pair of mutually associated substances whose emission spectra overlap at least in a subrange of the joint emission range such that the emission spectrum of the first substance or additive is complemented by the emission spectrum of the second additive. Rather, the overlapping of emission spectra of the single laser luminophores in Gonzalez is completely random in nature and does not result in wanted effect that may be used as a coding. Rather, the coding obtained in Gonzalez is achieved solely by detecting completely separated wavelength peaks or maxima of the laser luminophores wherein the wavelength maxima of the luminophores do not influence each other in any way or even complement each other.

Applicant submits that it is novel and unobvious to provide at least a first and second luminescent substance in a composition for security coding wherein the first and second substances emit in a subrange with respective emission spectra peaks so close as to practically prevent individual recognition of the first and second luminescent substances from an envelope of luminescent emissions defined by the joint emission range without further information. Such concept cannot be found in Gonzalez, which requires detection of individual peaks of the luminophores to achieve a coding as described in the patent.

In conclusion, the invention goes beyond simply providing a pair of luminescent substances having overlapping spectra. Rather, the respective maxima or peaks of the luminescent substances are so close that they complement each other to virtually blur the individual peaks so that the individual substances cannot be readily identified without further knowledge or information.

Rejection on Grounds of Nonstatutory Obviousness-Type Double Patenting

Due to the fact that this rejection is a provisional rejection in view of the fact that the conflicting claims have not yet been patented, Applicant elects to defer submitting a terminal disclaimer pending an indication of allowable subject matter in this application.

Closing Comments

Applicant submits that entry of the proposed amendments to claims 1 and 18 is appropriate under 37 C.F.R. §1.116 as they clearly place the application in condition for allowance without raising new questions that would require further search. Applicant submits that the nature of the amendments is to refine the original claim language in a manner expressing the original intention of the claim language.

In the event that the examiner maintains the rejection of the claims in view of Gonzalez U.S. 6,380,547 or on other grounds, entry of the amendments for purposes of appeal is respectfully requested.

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